RELATION
OF A
VOYAGE
FROM
BOSTON TO NEWFOUNDLAND,
FOR
THE OBSERVATION OF
THE TRANSIT OF VENUS,
JUNE 6, 1761.

h

BY JOHN WINTHROP, ESQ;

HOLLISIAN PROFESSOR OF MATHEMATICS AND PHILOSOPHY
AT *CAMBRIDGE*, N. E.

Omnes artes——habent quoddam commune vinculum; et quaſi cognatione quadam inter ſe continentur. CICERO.

BOSTON: N. E.
PRINTED AND SOLD BY EDES AND GILL, IN QUEEN-STREET,
M,DCC,LXI.

BRITISH MUSEUM

RELATION OF A VOYAGE, &c.

THE TRANSIT of the Planet VENUS over the diſc of the SUN, being a moſt important as well as curious phænomenon, has for a long time imployed the conſideration of Aſtronomers. The firſt notice that I find taken of it was by the ſagacious *Kepler*, who flouriſhed not long after the revival of the true aſtronomy by *Copernicus*; and in a work publiſhed in 1604, declared, that no ſuch thing could happen in that century; nor the next, till the year 1761. In this, however, that great man was miſtaken. For an Engliſh Aſtronomer, *Jeremiah Horrockes*, then no more than 20 years of age, but of an admirable genius, having corrected *Kepler's* Tables by ſome of his own obſervations, predicted and ſoon after obſerv'd this moſt rare phænomenon, on the 24th of November O. S. in the year 1639, at *Hoole*, a ſmall village about 12 miles N. from *Leverpool*. Having waited ſeveral hours with great impatience, he had at laſt the ſatisfaction to ſee the Planet as a black ſpot, juſt entring on the Sun, at a quarter paſt three in the afternoon. He made three obſervations of its poſitions in half an hour, when he was depriv'd of a longer ſight of it by the ſetting of the Sun. He had given notice to an aſtronomical friend, Mr. *Crabtree*, who, at a few miles diſtance juſt got a ſight of it between the clouds, before Sun-ſet. Theſe two were the only perſons that ever ſaw Venus in the Sun, before the preſent year.

THESE Tranſits became more generally known by a *Series*, which the late Aſtronomer-Royal Dr. *Halley* publiſh'd, of all in a thouſand years; from which it appears that none could happen between the years 1639 and 1761. But what made this of June 6, 1761, moſt of all famous, was a paper of the ſame learned author in the Philoſophical Tranſactions for the year 1705, wherein he explains an important uſe to be made of it. Some uſes of the tranſits of the inferior planets were obvious. They ſerve much better than any other phænomena, to perfect the theory of theſe planets, which is more difficult to be ſettled than that of the ſuperiors; and did they happen frequently, would be of admirable uſe in aſcertaining the longitude of places on this globe. They likewiſe demonſtrate the truth of the Copernican Syſtem, ſo far as it relates to theſe Planets, by making it evident that they reſpect the Sun, and not the Earth, as the centre of their motions. But Dr. *Halley* pointed ed out a new and ſingular uſe to be made of the Tranſit of Venus; and to which no other phænomenon in the heavens is near ſo well adapted. This is, in finding the Parallax of the Sun; which is ſo ſmall that the Aſtronomers have never been able to diſcover it with exactneſs in any other method. If this were once known, the diſtance of the Sun, and of all the Planets, and of all the Comets, would be known too; and their magnitudes would alſo be known, from their apparent diameters. This would give us a juſt idea of the vaſt dimenſions of the ſolar ſyſtem, and of the mighty globes which compoſe it. Nor can we, but by ſuch obſervations, know whether the Earth continues to revolve at the ſame diſtance from the Sun, or whether it gradually approaches him, as there is ſome reaſon to ſuſpect; nor whether the Sun remains of the ſame magnitude, or conſumes away and is diminiſh'd by the light which he is inceſſantly ſending forth. The Parallax of the Sun is alſo an element that enters into the calculation of eclipſes; and of what uſe theſe are in Aſtronomy, in Geography, in Hiſtory and Chronology, is too well known to need being inſiſted on at this day. It would likewiſe determine the quantity of matter in the Earth, or the proportion which this bears to that in the Sun; and ſhew us preciſely the amazing velocity with which light is darted from the Sun and other luminous Bodies;—and probably give us a deeper inſight into many of the wonderful works of GOD. For ſuch is the relation of the ſeveral branches of natural Philoſophy to each other, and of all of them to moral Philoſophy, that whatever tends to the perfection of one tends to perfect the other, in proportion to the connection there is between them. And a capital point once adjuſted, may ſerve for the determination of others, which were not at firſt thought of. Thus, the exact meaſure of a degree on the meridian enabled Sir *Iſaac Newton* to demonſtrate his Theory of univerſal Gravity, a ſcheme which had never enter'd into the minds of any, when the degree was propoſed to be meaſured ; by which means that great man laid open the conſtitution of the aſtronomical world, and pointed out the fundamental Law which the alwiſe CREATOR has eſtabliſhed for regulating the ſeveral movements in this grand machine.

FROM a ſenſe of the advantages to be derived from this Obſervation, Dr. *Halley* recommended it in the moſt emphatical terms, and inforced it with all the energy of language, on the Aſtronomers and others of the preſent day, that they would by no means let ſlip an opportunity, which he then doubted whether it would offer it ſelf again to the people of this or the following age ; and on which depended the adequate ſolution of a Problem, in itſelf moſt noble, and inacceſſible any other way. And to put the matter beyond all hazard, he adviſed to have a number of Obſervators ſtation'd in different parts of the Earth, that ſome of them might be ſure to ſucceed; as a ſingle perſon might be fruſtrated by the intervention of clouds.

THESE preſſing recommendations of the learned Doctor did not loſe their effect. The approach of this phænomenon was attended with a general curioſity: It became a topic of converſation among Perſons of every rank, of every profeſſion, of every taſte. It could not eſcape the notice of ſome of the greateſt Monarchs of *Europe*, ſurrounded, as they were, with the tumults of war. His late MAJESTY, of happy memory, attentive to the cultivation of the Arts and Sciences, thoſe great ornaments of civil Society;—particularly of Aſtronomy, on which he well knew Navigation, and of conſequence the commerce and wealth of his Kingdoms had a neceſſary dependence; was graciouſly pleaſed to provide for having this obſervation made in the moſt diſtant parts of *Africa* and *Aſia*, as well as in his own Royal Obſervatory at home.

NOR was *America* inactive on this ſingular occaſion. His Excellency FRANCIS BERNARD, Eſq; Governor of the Province of the *Maſſachuſetts-Bay*, inſpired with a juſt zeal for the advancement of Literature, which he demonſtrates on every opportunity, exerted himſelf to procure an obſervation in this quarter of the world. And as *Newfoundland* was the only Britiſh Plantation in which one could be made, and indeed the moſt weſtern part of the

Earth where the end of the Tranſit could be obſerv'd, for this was to happen before the Sun would be riſen to any other part of *America*, except the Savage coaſt of *Labrador*, he propoſed by a Meſſage † to the General Aſſembly of the Province then ſitting at Boſton, to make proviſion for this purpoſe. The Aſſembly, animated with the ſame public Spirit, and treading in the ſteps of their worthy Predeceſſors, who from the ſettlement of the Country have eminently diſtinguiſh'd themſelves among the other Governments as the PATRONS OF LEARNING, readily enter'd into his Excellency's views, and paſt a Vote † requeſting Him to order the Province-Sloop to convey me to *Newfoundland* on this deſign. The orders were iſſued, agreeably; and his Excellency was pleaſed to give me ſuch Letters, directed to his Majeſty's Officers, Commanders, and other his Subjects, and likewiſe to thoſe of the French King, as were proper to facilitate the execution of the enterpriſe, and to ſecure it from diſappointment by the enemy. The Reverend the Preſident and Fellows of Harvard College, in order to promote ſo laudable an undertaking, granted their Apparatus of aſtronomical inſtruments, to be imploy'd in this affair. Accordingly, I carried an excellent Pendulum clock; one of Hadley's Octants with Nonius diviſions, and fitted in a new manner to obſerve on ſhore as well at ſea ‡; a refracting teleſcope with croſs wires at half right angles, for taking differences of Right Aſcenſion and Declination; and a curious reflecting teleſcope, adjuſted with ſpirit-levels at right angles to each other, and having horizontal and vertical wires for taking correſpondent altitudes; or differences of altitudes and azimuths*. And taking with me for aſſiſtants two young Gentlemen my Pupils, ‡ who had made good proficiency in mathematical ſtudies, I embark'd at *Boſton*, on board the beforementioned veſſel, commiſſioned by the Governor, May the 9th, and in 13 days arrived at *St. John's*, *Newfoundland*.

---

† See the Appendix.

‡ Preſented to the Apparatus laſt year by Ezek. Goldthwait, Eſq;

THE reception I met with there was ſuitable to the conſequence of my Commiſſion, and the dignity of my Employers. Whatever was wanted, was ſupplied in the moſt obliging manner by the Gentlemen of that place; among whom, I am under particular obligations to mention Capt. *Roſs*, Commander of his Majeſty's Garriſon, and *Michael Gill*, Eſq; Chief Judge in the Courts. With their aſſiſtance we were enabled to ſurmount the difficulties which muſt be expected to attend an undertaking like ours, in a country unprovided with conveniences for ſuch operations. The town of *St. John's* being bounded with high mountains toward the Sun-riſing, ſo that no houſe in it would anſwer our end, we were obliged to ſeek farther; and, after a fatiguing and fruit-

---

* Preſented this year by the Hon. Thomas Hancock, Eſq;

‡ Meſſ's Williams and Rand.

leſs attempt or two, fix'd on an eminence at ſome diſtance, from whence we could have a view of the Sun preſently after his riſing. As this place was open, and had no building near it, we pitch'd ſome tents upon it for a ſhelter; which, together with our Apparatus, and ſuch materials as we had occaſion to make uſe of, we convey'd up thither, with the labor of ſeveral days. We ſecured the Clock to a pillar ſet in the ground under a large tent. Near this tent, and within call of the Clock, we fix'd two others firmly in the ground; one, to mount the refracting teleſcope upon; the other, which was above 8 feet high, for a Style, having at top a plate of lead with a little hole for tranſmitting the Sun's rays; and we laid a large horizontal Platform on the ground, to receive theſe rays. This Platform we kept cover'd, to defend it from the Sun and the weather; and examin'd its poſition every time we made uſe of it, by a very long level. On this we carefully traced a meridian line, by correſpondent altitudes of the Sun, taken both with the Reflector, and by the Sun's image on the Platform. And, in order fully to examine and verify the meridian and adjuſt our clock, we repeated theſe operations every fair day, and many times in a day; and continued them with an aſſiduity which the infinite ſwarms of inſects, that were in poſſeſſion of the hill, were not able to abate, tho' they perſecuted us ſeverely and without intermiſſion, both by day and by night, with their venemous ſtings. It would be tedious, as well as needleſs, to give a detail of the obſervations we made with this intent: 'Tis ſufficient, that we regulated the clock with as much exactneſs as we could have done at home.

THUS prepared, we waited for the critical hour, which proved favorable to our wiſhes. The morning of the 6th of June was ſerene and calm. † The Sun roſe behind a cloud that lay along the horizon, but ſoon got above it; and at 4^h 18^m we had the high ſatisfaction of ſeeing that moſt agreable Sight, VENUS ON THE SUN, and of ſhewing it in our teleſcopes to the Gentlemen of the place, who had aſſembled very early on the hill to behold ſo curious a ſpectacle. The Planet at firſt appear'd dim thro' the cloud, but in a ſhort time became more diſtinct and better defined. Upon this, I applied my ſelf to take the paſſage of the Sun's and Venus's preceding limbs by the vertical, and of their lower limbs by the horizontal wires in the Reflector; and made the following obſervations; one of my aſſiſtants counting the Clock, and the other writing down the obſervations, as I made them.

---

† We have ſince learned, that all along ſhore, from Cape-Race to Halifax, there was a heavy ſtorm of rain that morning.

Apparent Time.			
At 4^h	21^m	16^s	The Sun at the vertical.
		27	Venus at the ſame.
	23	2	Venus at the horizontal.
	24	19	The Sun at the ſame.
	27	25	Venus at the horizontal.
	28	43	The Sun at the ſame.
	35	11	The Sun at the vertical.
		17	Venus at the ſame.
	37	45	Venus at the horizontal.
	39	5	The Sun at the ſame.

As Venus began now to draw near theSun's limb, I prepared to obſerve her egreſs. The interior contact appeared at 4^h 47^m 17^s, and the exterior at 5^h 5^m 46^s. *

THE above obſervations gave me ſo many differences between the Sun's and Venus's altitudes and azimuths; from whence, by ſpherical trigonometry, I deducd the Planet's right Aſcenſions and Declinations; and from them, in the laſt place, her Longitudes and Latitudes. It would be neither of entertainment nor uſe to the Reader, to inſert the particulars of ſuch tedious calculations: It will be enough to give the reſult of the whole, or thePlanet's difference in Longitude from the Sun's centre, and herLatitude, at the time of each obſervation; which came out as follow.

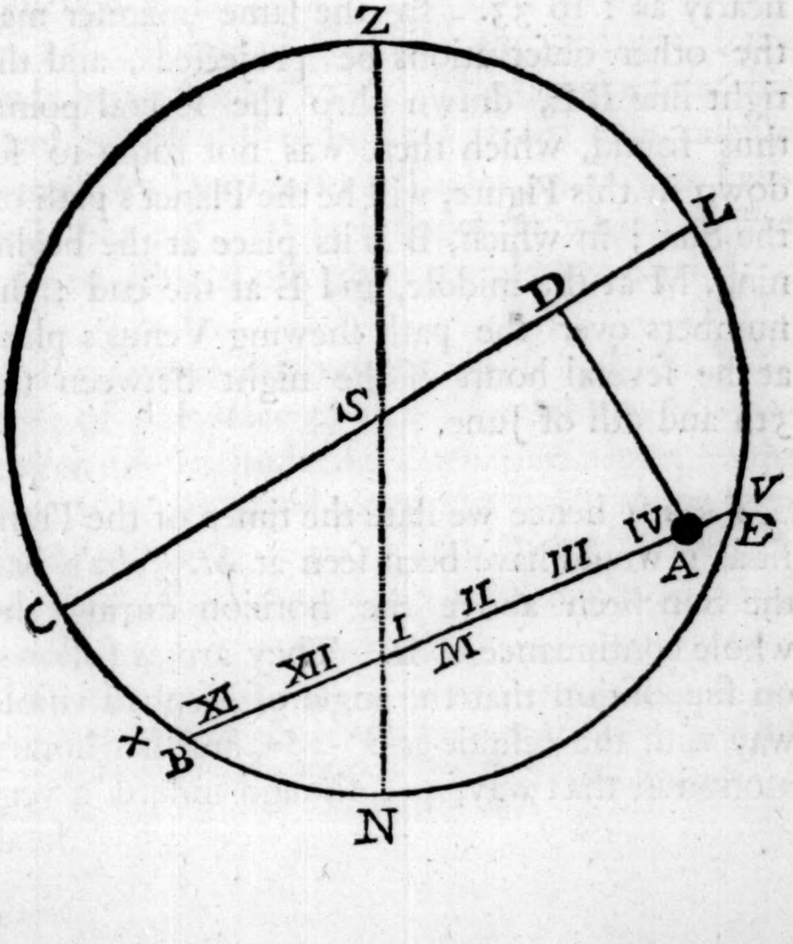
Apparent

---

* IN memory of ſo rare an obſervation, the Gentlemen preſent agreed to give the hill, where our obſervatory was ſituated,the name of *Venus*'s *Hill*.

Apparent Time.			Diff. Long. Sun & Venus.		Venus' Lat. South.	
4^h	21^m	27^s	9^m	2^s	10^m	47^s
	23	2	9	4	10	50
	27	25	9	25	10	52
	35	17	9	56	10	55
	37	45	10	8	11	00

THUS in the ſhort interval of Time that was permitted, I determin'd five poſitions of the Planet on the Sun; and by laying off the differences of Longitude and the Latitudes, the Planet's path over the Sun may be drawn, and its ſituation determin'd in reſpect of the ecliptic, or



or any other circle of the ſphere ; as is here done for the vertical thro' the riſing Sun at *St. John*'s. In the Figure, the circle C Z L N repreſents the Sun ; the diameter Z N, the vertical thro' his centre S ; CL, the ecliptic, in its due poſition with reſpect to this vertical at the time of ſun-riſing at *St. John*'s. Then, laying off the firſt obſerv'd difference of Longitude on the ecliptic from S to D, and the correſponding Latitude in a perpendicular to the ecliptic from D to A, we have the place of the Planet on the Sun at the time of the firſt obſervation ; repreſented here by the black ſpot at A ; which alſo exhibits the apparent bigneſs of Venus in proportion to the Sun's ; their diameters being nearly as 1 to 33. In the ſame manner may the other obſervations be projected ; and the right line B E, drawn thro' the ſeveral points thus found, which there was not room to ſet down in this Figure, will be the Planet's path on the Sun ; in which, B is its place at the beginning, M at the middle, and E at the end ; the numbers over the path ſhewing Venus's place at the ſeveral hours of the night between the 5th and 6th of June.

FROM hence we ſtate the times of the Tranſit as it would have been ſeen at *St. John*'s, had the Sun been above the horizon during the whole continuance of it. They are as follows, on ſuppoſition that the angle of Venus's viſible way with the ecliptic is 8° 28m, and her horary motion in that way, 4m ; though indeed a very ſmall alteration in any of the elements will make a ſenſible one in the time of the beginning.

	D.	H.	m.	ſ.
Venus firſt touch'd the Sun's limb, June - -	5	10	24	14
her centre enter'd, - -			33	30
She was wholly within, - -			42	43
The middle, or Venus neareſt the Sun's centre, -		13	45	00
* the diſtance between them being then 9^m 22^s.				
Venus began to paſs off the Sun—		16	47	17
Her Centre paſſed off - -			56	30
She wholly left the Sun, -		17	5	46

It may be further collected, that the conjunction in Longitude happen'd at 14^h 4^m 32^s in 15^d 35^m 22^s of *Gemini*; the Planet's Latitude being then 9^m 28^s. The Longitude at this conjunction differs but 27^s from the calcule I made by Dr. *Halley*'s Tables; and the Latitude but 23^s. Which ſhews to what a degree of perfection thoſe tables are already carried.

By ſeveral obſervations we found the Latitude of the place 47^d 32^m N; which falls between the Latitudes ſet down in different books and maps. No eclipſe of the ſun or moon happen'd while we were on the Iſland, by which we might have determin'd the Longitude; and

---

* Since theſe papers were at the Preſs, I have learned, that Venus's neareſt diſtance from the centre of the Sun, was found at Paris, 9^m 33ſ; and at Middleburg in Zealand, 9^m 5ſ.

Jupiter's Satellites proved of no ſervice in that affair; as they were not riſen high enough to be obſerv'd above an hour before day-light came on. There were but two eclipſes of them that could have been viſible during our ſtay there; and tho' I watched for both theſe, I was diſappointed of both by unfavourable weather. Neither was I fortunate enough to get ſo much as one occultation of a fix'd ſtar by the moon, tho' I ſpared no pains for it. On the 11th of June we made an obſervation for this purpoſe, by taking the difference of right aſcenſion of the moon's preceding limb, and the middle ſtar in the border of the garment of Virgo, the 82d of that conſtellation in the Britannic Catalogue; which at $9^h\ 29^m\ 51^s$, we found to be $12^d\ 7^m\ 29^s$. Calculating from hence, the Longitude came out $50^d\ 14^m$ W. from Greenwich; which is a little leſs than I had ſuppoſed it in my calculations.

THE variation of the needle we found to be 19^d W. which is leſs than it is marked on the charts.

IN the above calculations I took the ſemidiameter of the Sun to be $15^m\ 50^s$; and of Venus 29^s. This laſt is leſs than Dr. *Halley*, after Mr. *Horrockes*, ſuppoſed it; but it cannot be bigger, conſiſtent with the foregoing obſervation, which has convinced me, that Venus, inſtead of being equal in diameter to the Earth, according to the common opinion, is leſs, in the proportion of 5 to 4.

BY the foregoing obſervations we are now enabled to predict with certainty, what Dr. *Halley*, in his paper before-mentioned, only ſuſpected, that Venus will again paſs over the Sun on the 3d of June in the year 1769; the former part of which Tranſit will be viſible in our horizon for about 5h in the afternoon, but the Sun will ſet before it is ended. That Tranſit will be more convenient for finding the Parallax than the preſent has been; but not becauſe "Venus will then deſcribe a line nearer "the diameter of the Sun"; which is the reaſon aſſign'd in the London Magazine for June 1761. The Planet will hardly come ſo near. The true reaſon is, becauſe Venus will then deſcribe a more northerly path on the Sun. After that, there will not be another Tranſit for above 100 years; viz. not 'till the 8th of December in the year 1874. But the whole of that will be inviſible here; the middle happening about midnight. The next after that, will not be in the year 1996, as it is in Dr. HALLEY's *Series*. This *Series* was founded on the old hypotheſis of the immobility of Venus's Nodes, which appears to be erroneus. The obſervation of the late Tranſit has made it certain, that theſe Nodes have a retrograde motion, tho' a very ſlow one; which is agreable alſo to the Theory of Gravity. And from hence it follows, that the next Tranſit after that of 1874 will not be till the year 2004, on the 8th of June; the latter part of which will be viſible here after ſun-riſe. How Aſtronomy tranſports us into diſtant Futurity!

FROM theſe numbers a queſtion naturally ariſes, How it comes to paſs, that there will be another Tranſit after ſo ſhort a term as 8 years, when there has not been one for above 120 years paſt, nor will there be another for above 100 years after the next? This queſtion deſerves an anſwer. I ſhall give it one, deduced from the firſt principles, in as clear and ſuccinct a manner as I am able. It is to be obſerved then, that the Earth revolves round the Sun in 365 days; and Venus in 224; and moving in a ſmaller orbit included within the Earth's, ſhe may paſs between the Sun and the Earth; which aſpect is called an inferior Conjunction. By reaſon of this quicker revolution, Venus muſt overtake the Earth in certain intervals of time, which I find to contain 584 days; ſo that Venus, having once paſſed between the Sun and the Earth, will return to paſs between them in 584 days. Now if her orbit lay in the ſame plane with the Earth's, at every one of theſe inferior conjunctions Venus would paſs *between* the Sun and the Earth, in the ſtricteſt ſenſe of the word; and, her unilluminated ſide being then turned to the Earth, would appear to us like a black ſpot paſſing over the diſc of the Sun. Had this been the poſition of her orbit, at the end of every period of 584 days there would have been a Tranſit of Venus; and the Tranſits would all have been central, the Planet every time deſcribing a diameter of the Sun. But the plane of Venus's orbit is inclined to the Earth's in an angle of 3^{d} 23^{m}; and ſo far might Venus be ſeen to the N. or S. of the ecliptic, if view'd from the Sun; but view'd from the Earth, to which ſhe is much nearer in the inferior conjunctions, ſhe may be ſeen above $9\frac{1}{4}^d$ from the ecliptic; and therefore, as the Sun's ſemidiameter is but $\frac{1}{4}$ of a degree, Venus in her inferior conjunctions may paſs 9^d to the N. or S. of the Sun's limbs. This Planet can appear on the face of the Sun, only in thoſe inferior conjunctions, when her diſtance from the ecliptic, as ſeen from the Earth, is leſs than the ſemidiameter of the Sun. For this effect, ſhe muſt be within 5^d of her Nodes, which are the two oppoſite points in which her orbit croſſes the ecliptic; and this arc ſhe deſcribes in 3 days. About the preſent age, the Sun is in one of theſe Nodes on the 5th of June, and in the other on the 6th of December. So that the Tranſits muſt happen between the 2d and 8th of June; or the 3d and 9th of December. To find at what intervals they may follow one another, we muſt find when the aforeſaid period of conjunctions, viz. 584 days, taken ſome number of times will amount to ſome number of years, within 3 days more or leſs; for that will bring the conjunctions to happen at the ſame time of the year. Now five of theſe periods amount to eight years, wanting two days; and this is ſhorteſt interval in which the Tranſits can follow one another. No other number of theſe periods leſs than 147 will anſwer this condition; and this number amounts to 235 years.— At the end of the period of 8 years in June, Venus paſſes almoſt 20^m more northerly than before; and as the ſemidiameter of the Sun is near 16^m, if in a Tranſit in June Venus paſſes above 4^m to the S. of the Sun's centre, there will be another Tranſit in 8 years; otherwiſe, not till 235 years. And from hence it appears, that theſe Tranſits cannot ſucceed one another in two conſecutive periods of 8 years; for in the laſt of them, Venus will paſs near 40^m more northerly than in the firſt; which is more than the whole diameter of the Sun. The like may be ſaid of the Tranſits at the other Node in December.——The laſt time this period of 8 years took place, was in 1631 and 1639; and the next time, after the preſent, will be in 2004 and 2012.

As there was ſome reaſon to ſuſpect that Venus had a Satellite, partly from two obſervations of M. *Caſſini* at Paris in the years 1672 and 1686, but principally from one that was made by Mr. *Short* at London on the 23d of October 1740, I entertained hopes of ſeeing it paſs over the Sun; and with this thought, view'd the Sun with great attention in the Reflector, both on the 5th and 6th of June; but in vain. There were ſeveral ſpots then on the Sun, but none that I ſaw could be a Satellite.

To conclude. The path of Venus, above determin'd, is her viſible path, as affected by parallax at *St. John's*; which will be different from her viſible path in diſtant parts of the

Earth, where parallax has a different effect. This viſible path, and the apparent motion of Venus in reſpect of the Sun, are here rightly determin'd, even if the elements imploy'd in the calculation, ſuch as the latitude and longitude of the place, and thoſe ſupplied by the aſtronomical tables, ſhould not be exactly ſuch as we ſuppoſed them. Any ſmall difference in theſe particulars muſt equally affect the motion both of the Sun and Venus; and therefore, tho' it would alter their places in reſpect of the equinoctial points, it would produce no ſenſible difference in the relative motion of one to the other; nor any error in the ſituation of Venus in reſpect of the Sun. The compariſon of the obſervations made in the N. W. parts of the world with thoſe in the S. E. when all of them come to be laid together, will give the true path of Venus, abſtracted from parallax; by which means, the quantity of the parallax will at length be diſcovered. The right determination of which point will render this year 1761 an ever-memorable æra in the annals of aſtronomy.

E N D.

APPENDIX.

Extract from the Votes of the Hon. Houſe of REPRESENTATIVES.

Sabbati 18 *Die Aprilis*, A. D. 1761.

Meſſage from the GOVERNOR.

MR. Secretary OLIVER, came down with a Meſſage from His Excellency the Governor; which he read and laid on the Table; His Excellency's Meſſage is as follows, *viz.*

GENTLEMEN of the Houſe of Repreſentatives,

I Have received a Letter from Profeſſor WINTHROP, *wherein he offers his Service to go to* Newfoundland *to obſerve the Tranſit of* VENUS *over the Sun on the Sixth Day of* June *next. You muſt know that this Phenomenon, (which has been obſerved but once before ſince the Creation of the World) will, in all Probability, ſettle ſome Queſtions in Aſtronomy which may ultimately be very ſerviceable to Navigation: For which Purpoſe, thoſe Powers that*

that are intereſted in Navigation, have thought it their Buſineſs to ſend Mathematicians to different Parts of the World to make Obſervations. And as the Compariſons of the Obſervations in different Parts of the Earth will be the principal Means of making the Diſcoveries uſeful, His Majeſty has ſent a Man of War with Mathematicians, to be ſtationed in different Parts of the Eaſt-Indies, *&c. and the* French King *and ſome other Powers, have done the ſame. It happens that this Phenomenon is not to be ſeen in* North-America, *except the moſt Northern Parts, of which* Newfoundland *exhibits the beſt View; I cannot therefore excuſe my ſelf recommending to you to enable Mr.* WINTHROP *to take a View from thence. The beſt and leaſt expenſive Method I can think of, is this; That the Province Sloop, which a little before that Time will be obliged to be ſent to* Penobſcot, *may proceed from thence with the Profeſſor to* Newfoundland.

IF you will ſignify your Approbation of this, I will order it; and I can aſſure you, that we ſhall hereby ſerve the Cauſe of Science, and do Credit to the Province.

Council-Chamber,
April 17, 1761.

FRA. BERNARD.

HIS Excellency's foregoing Meſſage was read again, and *Ordered*, That Mr. *Welles*, Col. *Clap*, Col. *Worthington*, Mr. *Foſter*, and Mr. *Flucker*, Conſider and report thereon.

Lunæ

Lunæ 20 *Die Aprilis* A. D. 1761.

IN Anſwer to His Excellency the Governor's Meſſage of the 18th Currant, propoſing to the Houſe to provide for Mr. WINTHROP's going to obſerve the Tranſit of the Planet VENUS over the Sun's Diſk, on the 6th of *June* next:

VOTED, *That His Excellency the Governor be humbly requeſted to direct Captain* Saunders, *Maſter of the Sloop in the Province Service, to wait on* JOHN WINTHROP, Eſq; *Hollisian Profeſſor of Mathematics and Philoſophy at the College in* Cambridge, *and him in ſaid Sloop to attend and convey, with the Apparatus and other Neceſſaries, to the Northeaſt Part of* Newfoundland, *or to ſuch Places as ſaid Profeſſor ſhall judge proper; and when his Obſervations are compleated, and Mr.* Winthrop *ſhall direct it, that Captain* Saunders *attend on and convey Mr.* Winthrop *back to* Boſton.

Sent up for Concurrence.

BRITISH MUSEUM 19 AU 74